

Answer on Question #50323, Chemistry, Other

Task:

How many grams of potassium nitrate (KNO_3) are required to produce 536 g of potassium nitrite (KNO_2) according to the equation below?



Answer:

$$v = \frac{m}{M}$$

$$M(\text{KNO}_2) = 85 \text{ g / mol}$$

$$M(\text{KNO}_3) = 101 \text{ g / mol}$$

$$v(\text{KNO}_2) = \frac{536}{85} = 6.3 \text{ mol}$$

$$v(\text{KNO}_2) = v(\text{KNO}_3) = 6.3 \text{ mol}$$

$$m(\text{KNO}_3) = v(\text{KNO}_3) \cdot M(\text{KNO}_3)$$

$$m(\text{KNO}_3) = 6.3 \cdot 101 = 637 \text{ g}$$